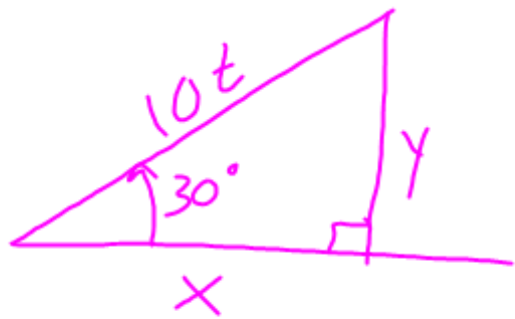
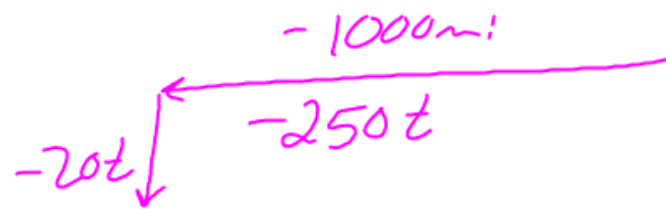


# Do the Wind/River Problems



$$10t \cos 30^\circ = \frac{x}{10t} \cdot 10t \quad \sin 30^\circ = \frac{y}{10t}$$

$$\Rightarrow x = 10t \cos 30^\circ \quad y = 10t \sin 30^\circ$$



Plane

$$x = -250t$$

$$y = 0$$

Wind

$$x = 0$$

$$y = -20t$$

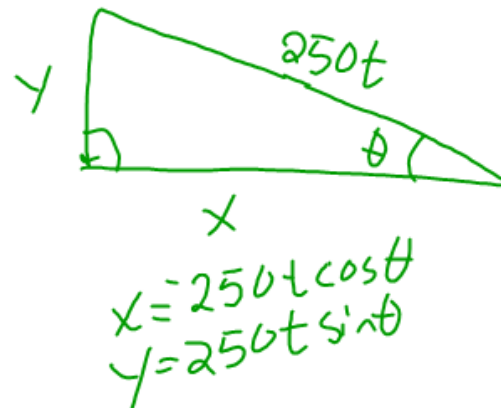
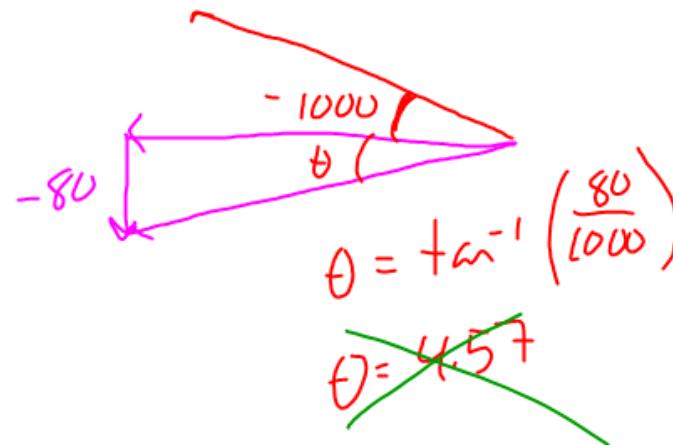
$$\frac{d}{r} = t \quad \frac{-1000}{-250} = 4 \text{ hrs}$$

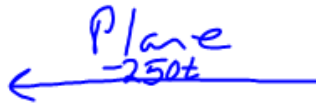
$$250t \sin \theta + 20t = 0$$

$$\frac{250 \cancel{t} \sin \theta}{250} = \frac{20 \cancel{t}}{250}$$

$$\sin \theta = 0.08$$

$$\theta = 4.59$$

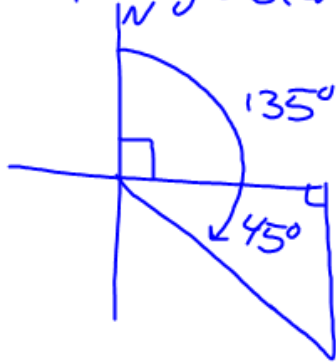




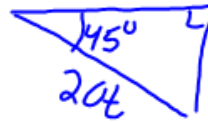
$$x = -250t$$

$$y = 0$$

heading = bearing



Wind



$$x = 20t \cos 45^\circ$$

$$y = -20t \sin 45^\circ$$

Total

$$x = -250t + 20t \cos 45^\circ$$

$$y = 0 + -20t \sin 45^\circ$$

$$-1000 = -250t + 20t \cos 45^\circ$$

$$-1000 = t(-250 + 20 \cos 45^\circ)$$

$$t = 4.24$$

Concept: cross currents

Sect. 6.6

Rule

- ① Picture
- ② Equations — write separate equations for wind + plane  

$$\begin{array}{cc} x = & x = \\ y = & y = \end{array}$$
- ③ Add equations together  $x_w + x_p$   
 $y_w + y_p$
- ④ time
- ⑤ To get angle of compensation, write new equations for the plane using  $\theta$ , then add the plane's new  $y$  equation to the wind's  $y$  and set equal to zero.

HW → solidify project 288  
 → solidify 4 examples from 6.6.